B.

19. *T. Stutchburyi*, Blainville.

T. campanulata, Deshayes in Brit. Mus.

20. *T. minima*, Blainville.

T. bipalmata and *bipalmulata*, Delle Chiaje.
T. palmulata, Philippi.
T. Philippii, Fischer.
T. serratus, Deshayes, MS.

This species is common in the Mediterranean; but it has not yet been noticed in this country.

21. *T. palmulata*, Lamarck.

T. bipalmulata, ej.
Taret de Pondichéri, Adanson.

Nothing is known of the valves or tube. The pallets, from which Lamarck described the species, are still preserved in the Collections of Natural History at the Jardin des Plantes; and I observed another pair in the cabinet of M. Petit de la Saussaye at Paris. They bear no resemblance to the pallets of *T. palmulata* of Philippi, except in being compound or jointed; but they are more nearly allied to the pallets of *T. bipennata*, although evidently distinct.

PROCEEDINGS OF LEARNED SOCIETIES.

ZOOLOGICAL SOCIETY.

February 14, 1860.—John Gould, Esq., F.R.S., V.P., in the Chair.

On the Occurrence of American Birds in Europe. By Herr H. Gätke of Heligoland.

The route by which American birds proceed to Europe is, as Yarrell justly terms it, "an interesting problem, of difficult solution." For years this solution has occupied my attention; and although I have myself always been convinced that such of these entirely American birds as occasionally visit Europe *do* reach us by a passage across the Atlantic, this remains a mere opinion, carrying no weight if unsupported by facts, or by at least sufficient argument to make good the question at issue.

The mere comparative review of the occasional visitors among the birds of Great Britain and of Germany will lead to the conclusion that the route of American birds to Europe must needs be a voyage across the Atlantic; for almost all the additions to the birds of Europe, of species *purely American*, have been obtained in Great Britain—which could not have been the case if they had proceeded in any other than an eastern direction—whilst the additions by Germany, furnished to the European Ornis, consist almost entirely of birds belonging to Asia.

However striking the result of such a comparative review may be, one question will always present itself, namely:—Whether it be possible for a bird to sustain an *uninterrupted* flight sufficient to carry it across the wide expanse of the Atlantic. I am convinced that this is possible, and shall endeavour to prove such possibility.

This purpose necessitates a measure for the rate of locomotion of a bird through the atmosphere. For a long time I vainly endeavoured to obtain reliable data upon which to found an estimation of the rate of flight of birds—when at last I hit upon a passage in Yarrell's 'British Birds,' ii. p. 295, where, speaking of the Carrier Pigeon, he mentions the fact of one of these birds having performed a flight of 150 miles in an hour and a half: it was on the 24th of June 1833; the Pigeon flew from Rouen to Ghent; sixteen others flew the same distance in two hours and a half.

Wonderful as this instance of swiftness of the flight of a bird may appear, it certainly is still surpassed by birds when on their periodical migrations; for the above feat was accomplished by an individual hatched and reared in at least semi-confinement, whose powers of flight consequently could not be nearly so well developed as in a bird grown up wild and free, which nearly every hour of its life has to depend on the utility of its wings, either for the purpose of overtaking its prey, or for that of escaping from being caught.

Laying down, therefore, 100 geographical miles per hour as the rate of flight of birds during distant migration, one keeps—after the above—quite within safe bounds; and at this rate the 1600 geographical miles from Newfoundland to Ireland would be effected in sixteen hours. No ornithologist will doubt for a moment the capability of a healthy bird to sustain a flight of that duration. During the long summer days, many of the *Hirundinidæ* are on the wing for as long a period; and although their flight may be interrupted by occasional rests of very short duration, it is performed in the lower, less buoyant atmosphere, and consists of so many evolutions, that most decidedly it must on the whole be much more tiresome than the straight path in the pure upper regions of a bird bent on the performance of one long pilgrimage.

Even supposing that birds become exhausted before accomplishing the passage across the ocean, observations I have made in the vicinity of this island have fully convinced me that small birds, such as Thrushes, Buntings, Finches, &c., are able to rest on the sea—even when a little in motion—and afterwards to resume and pursue their flight with fresh vigour. Of this I shall give the particulars further on, but for the present return to the above question, by giving an instance of endurance on the wing of a species which, with pretty good certainty, may be said every spring to perform in the period of one night a flight of more than 1200 geographical miles—namely, from Egypt to Heligoland,—the bird in question being a particular form of Blue-throated Warbler, *Sylvia cœrulecula*, Pallas.

This pretty little bird, noted not at all either for rapidity or great endurance of flight, has its summer quarters in the high northern latitudes of Sweden, Finland, and Siberia, whereas during the winter

months it is staying principally in Egypt. On its spring migration, which takes place during the earlier half of May, the first place north of Egypt where it is to be found with certainty in pretty considerable numbers is Heligoland. Nowhere in the whole intermediate distance is it met with but as a great rarity—not even on the neighbouring north coast of Germany; whilst here in Heligoland I have oftentimes obtained it in such numbers that more than twenty of the finest adult male birds have been bought by me in one day, and perhaps the same number by the bird-stuffers of the island. The foregoing admits of one conclusion only: namely, that this little bird performs the passage from Egypt to Heligoland in one uninterrupted flight, travelling — as many of the other small *Insectivoræ* do — during the night, starting towards sunset and arriving here about sunrise, or a little later, the time occupied being from twelve to fourteen hours. The distance from Egypt to Heligoland being about 400 geographical miles less than that between Newfoundland and Ireland, the rate of flight of this delicate little bird may be put down the same as that of the above-mentioned Carrier-Pigeon, and consequently furnishes a further proof that a healthy well-flying bird is able to cross from the nearest point of America to Ireland without rest or any extraordinary support whatever.

In the foregoing I alluded to the ability of non-natatorial birds to rest, in case of exhaustion, on the sea, and of rising from it after having recovered sufficient strength to resume their flight; and that, too, at times when the water is far from being unruffled. This statement is based on the following observations. One day, when out in a boat shooting, about two or three miles from Heligoland, I observed a very small bird swimming on the water. Neither the boatman nor myself being able to discern what species it belonged to, we became very eager to secure the stranger—conjecturing that it would turn out to be some wonderful rarity. When preparing to fire, I fortunately discovered that the expected prize was nothing but a Song-thrush! Immediately our desire to kill was changed into compassion: the "*poor Thrush*" in so piteous a situation was to be "*saved.*" But how great was our astonishment when, upon the approach of the boat, the bird, without any apparent difficulty, rose from the water and flew towards Heligoland in first-rate style! Another time we saw a Snow-Bunting, evidently exhausted very much, because it was floating scarcely 500 yards from the island. At the approach of my boat, this bird also very lightly rose from the water, but it was so weak that it had to resume its unnatural resting-place after proceeding about thirty or forty yards towards the rocks. We went after it again, and for a third time, but with the same result, whereupon we refrained from all further attempts at forcing our well-intended assistance upon so obstinate a fellow—the more so, as we entertained no doubt that after a little rest he would obtain a more solid footing without any help of ours.

I will give one more instance of this propensity in birds—in all my experience the most striking: this time it was a Mountain-Finch which had been compelled to alight for rest on the water of the sea;

it was about three miles east of Heligoland. When this bird was approached by the boat, it rose very easily, mounted into the air to a great height—as birds do when starting for their migratorial excursions—and then struck out steadily in a southern direction, *without taking any notice whatever of the island.*

Although I believe the foregoing instances sufficiently prove the *possibility* of birds being able to cross on the wing from the United States of America to Great Britain, the greatest *probability* that they do so is still shown by the proportion the number of American birds obtained in Great Britain bears to that of those obtained in the whole of Europe. Yarrell, in his 'British Birds,' 1845, mentions more than forty instances of that description,—*Tringa rufescens* and *Scolopax grisea* having each been obtained six times! whereas Germany, Holland, and France together offer but very few instances, some of which scarcely rest on good authority.

Heligoland seems to form a happy centre. Here the Gulls of the Arctic Sea, *Larus Rossii* and *Sabinii*, meet the Numidian Crane (*Grus virgo*), *Lanius phœnicurus*, and other African birds; whilst the United States send *Mimus rufus* and *T. lividus*, *Sylvicola virens*, *Charadrius virginicus*, and others, to meet deputations from the far east of Asia consisting of *Turdus ruficollis* and *T. varius*, *Sylvia javanica*, *S. caligata*, and *S. Certhiola*, *Emberiza rustica*, *E. pusilla*, and *E. aureola*, *Pyrrhula rosea* and a great many others.

All these birds, together with a great number of acquisitions quite as valuable for the European Ornis, *all captured on this island*, are preserved in my collection—a collection which, although scarcely approaching to three hundred specimens, has, by Blasius, been pronounced to be "the most interesting between Paris and Petersburg."

Heligoland, January 1860.

February 28, 1860.—John Gould, Esq., F.R.S., V.P., in the Chair.

NOTE ON THE SUPPOSED OCCURRENCE OF THE HIRUNDO BICOLOR OF NORTH AMERICA IN ENGLAND. BY ALFRED NEWTON, M.A., F.Z.S., &c.

I venture to send for exhibition a skin of the North American *Hirundo bicolor* of Vieillot, which was formerly the property of my late very good friend Mr. John Wolley, and which there can be little doubt was obtained from a bird killed in this country, though Mr. Wolley, with that admirable caution which distinguished him in recording the reported occurrence ('Zoologist,' 1853, p. 3806), was careful to mention that there was "a possibility of mistake" in the matter.

I think that perhaps some members of the Society will view this specimen with a certain amount of interest; but, apart from this, my object in its exhibition is mainly to draw the attention of naturalists to a matter which is every day becoming of greater consequence to those ornithologists who chiefly occupy themselves with the Avifauna of any one district. I refer to the occurrence within particular limits of strong examples of exotic species. It is not only

"British-bird" students who find in these alien immigrants a great cause of perplexity. To whatever country we go, we are, perhaps before we have well ascertained the number of the *bonâ fide* species, puzzled by some wanderer turning up exactly where he was least wanted. In my own opinion, the ornithologist must accept his position with all its responsibilities; he chooses to study a class of beings, some of whom, for all sublunary purposes at least, are blest with almost infinite powers of locomotion. He must therefore not complain if in the course of a morning's walk here in England, an Australian Swift flies in his face, or he picks up a dead Crossbill of a Transatlantic species; and he must invoke no *Deus ex machina* in the shape of an auxiliary-screw clipper or a careless aviary-keeper to account for the incident. Facts like these hardly admit of a doubt, and force themselves day by day more and more upon the notice of the thoughtful naturalist. For some time, indeed, European ornithologists have been accustomed to regard the properly authenticated appearance of an exotic species, which there may be good reason to suppose to have reached our shores without intentional human aid, as sufficient ground for including it in the list of our birds. But as observers have of late so largely increased, so have these occurrences been more frequently noticed; and it seems absolutely necessary to prescribe some limit to prevent our really native species from being outnumbered by these foreigners. The difficulty is to know where to draw the line; and to this point I would invite the careful consideration of naturalists. It may be all very well to call *Thalassidroma Wilsoni* and *Mergus cucullatus* European birds; but because a single individual of *Regulus calendulus* or *Dendrœca virens* has reached the Old World, it is absurd to include either of those species in its Fauna. I cite these instances because they are all from that continent whence most of our occasional visitants arrive—so much so, that one is almost driven to the conclusion that there is no *primâ facie* reason why examples of the greater number of birds of Eastern North America should not, *favente zephyro* (the prevailing strong wind in Western Europe), make their appearance on our shores in course of time. Then, on the other hand, the last two additions to the list of so-called "British birds" have been from the opposite quarter. Are *Syrrhaptes paradoxus* and *Xema ichthyaëtus* to take their places in the books elucidating British Ornithology by the side of the Red Grouse and the Peewit Gull? It appears to me that we gain nothing by deferring a decision on the subject, and I trust that these remarks will not be deemed unnecessary by those who are competent to deal with the matter.

Elveden, 28 February, 1860.

Description of a New Genus of Boidæ discovered by Mr. Bates on the Upper Amazon. By Dr. J. E. Gray.

Fam. Boidæ.

Chrysenis, n. g.

Head rather large, rather depressed, covered with scales, the front half covered with small symmetrical shields, as follows:—two pair

in an arched series behind the rostral and nasal, and four pair forming a ring round the pair of small central frontal shields; loreal shields two; eyes surrounded by a series of small shields, with a series of four or five small superciliary shields above them; forehead, crown, and cheeks covered with small granular scales; rostral plate with a pit on each edge; upper labial shields low, with a large deep pit on their hinder edge; front lower labial shields simple, high, the hinder short, with a very deep pit on the hinder edge of each of them; nostrils situate between two moderately sized, nearly equal nasal shields; pupils erect, oblong; body compressed, rounded above and below; tail conical, with a single series of subcaudal plates.

This genus resembles *Epicrates* as to the shields on the muzzle, but differs in the distinctness and form of the pits on the labial shields.

Chrysenis Batesii.

Pale brown, with a series of oblong subangular black-edged pale spots on the hinder part of the back, which become broader and more distinct as they approach the end of the tail, and with a series of distant small roundish black-edged spots on the lower part of the middle of the body, the hinder spot largest and nearest to the edge of the ventral shield.

Hab. Upper Amazon.

March 13, 1860.—Dr. Gray, F.R.S., V.P., in the Chair.

The following extracts from the 'Bermuda Royal Gazette' of Jan. 31st, 1860, relating to the recent capture of a large species of *Gymnetrus* in the Bermudas, were read to the Society:—

"*To the Editor of the 'Royal Gazette.'*

"My dear Sir,—As the ichthyological specimen captured by Mr. George Trimingham, at Hungary Bay, has attracted some public attention, perhaps a short description of the creature in question may prove interesting to your readers. I have therefore much pleasure in forwarding the following particulars.

"Believe me, very truly yours,

"J. Matthew Jones, F.L.S.

"The Hermitage, January 26th, 1860."

"Order Acanthopterygii. Family Cepoladæ.

"Genus *Gymnetrus*.

"—— ——?

"Body attenuate, compressed, naked, tuberculate; cuticle a silvery covering of metallic lustre; length from facial to caudal extremities 16 feet 7 inches; depth, at 14 inches from facial extremity, 9 inches, increasing gradually to near the ventral extremity of the stomach, where it attained its greatest depth of 11 inches, and then decreased by degrees to the caudal termination; width, at the same distance

and through the spinal column, $2\frac{1}{2}$ to 3 inches. (These dimensions are the extreme.)

"From the frontal extremity of the caput (excepting a slight depression at the occiput) to the position at which the above dimensions of depth and width were taken, a gradual elevation of the dorsal ridge took place; and from the capital portion of this ridge arose at equal distances from each other a series of ten or eleven erect, quill-like, flexile filaments from 2 to 3 feet in extent, gradually tapering from base to apex, and possessing, in the case of the three longest, lanceolate points. From this series of lengthened filaments, all along the back, from head to tail, extended a series of intermittent fins so closely situate to each other as to present the appearance of a single fin, and having the spinose rays of each individual fin joined by the connecting membrane. Filaments and dorsal fin bright crimson. The ventral fins were entirely destroyed, save a portion of the *right* ventral, which is sufficient to show that it was composed of two consistent bony rays, which probably extended some distance from the body and must have formed a powerful engine of direction. The pectorals were also almost entirely destroyed, although the base of the *right* pectoral was sufficiently complete to enable me to state that it contained twelve spines. Anal and caudal fins absent.

"Head truncated, compressed; facial outline of a dark colour. Mouth so damaged as not to be positively determinable as regards form and appearance, but from the portions of jaw still remaining I should pronounce it malacostomous. Eyes, 14 lines in diameter, slightly depressed; irides, $3\frac{1}{2}$ lines in width, of a bright silver, encircling pupils of a somewhat oval shape, and in colour a light transparent blue. Stomach: intestinal chamber extending from beneath the gills to the anal extremity, 5 feet; unfortunately this chamber had been opened and its contents partially injured before I saw the specimen, but a large portion of milt, intestine, &c. has been preserved, including the major portion of the swimming bladder, which for so large a fish may be considered small; its colour a bright scarlet; this swimming bladder contained a large amount of oily matter, and a piece thrown on the ruffled surface of the water immediately stilled the agitation. Gill-rays eight in number, four to a side, crimson, flabellate; the anterior pairs furnished with double rows of flabels, having the internals white, and armed on their inner side with minute dart-like appendages. Gill-covers bony, radiate, not entirely covering the gills. Teeth, no appearance of any.

"In concluding the above description, I must not omit to state that it was a male fish, and from the extremely fragile nature of its various parts I may venture to express an opinion that it had by no means attained maturity.

"I may also remark that my measurements were taken twenty-two hours after death, during which time the specimen had remained exposed on the rocky shore.

"*Remarks.*—This genus of Acanthopterygious fishes is of a form so thin and flat in proportion to its length as to have obtained among the ancient ichthyologists the name of Riband Fish. Although several

species are known to science, yet they are all of diminutive size in comparison with the individual now obtained. *Gymnetrus Hawkenii*, *G. Banksii*, and *G. Glesne* are occasionally found in the British Seas.

"So little appears to be known of this singular tribe of fishes, that, even in the present advanced state of marine zoology, their habits, haunts, &c. remain blanks in the book of Nature, and will probably long continue so, unless opportunities like the present should occur to enable us to add new facts to the history of these remarkable creatures.

"The most notable fact, however, in connexion with the capture of the present specimen will doubtless be the interest and attraction it will produce in the scientific world; for most assuredly we have in the specimen now before us many of the peculiarities with which the appearance of that hitherto apocryphal monster, the Great Sea Serpent, as detailed by navigators, is invested. The lengthened filaments crowning the caput, joined anteriorly by the connecting membrane and extending to the shoulders, would, viewed from a vessel's deck, present to the spectator the mane so accurately described as a singular feature in the gigantic specimen seen by Capt. M'Quhae, R.N., and officers of H.M.S. 'Dædalus.' Then, again, the rapidity with which that individual specimen moved through the water would coincide with the capabilities of a member of this genus; for the motive power produced by such an extent of tail, coupled with the extremely compressed form of body from the head throughout, must be immense.

"Here, then, we have a partial elucidation of the various statements which have at intervals appeared in the columns of the united presses of England and America, emanating from the pens of travellers, and usually headed 'Occurrence of the Great Sea Serpent,'—criticised, however, in an ungenerous manner, and always exposed to an unmerited ridicule at the hands of the many, but nevertheless firmly believed in by the few, who have patiently waited to see the day when the mystic cloud which has hitherto veiled the existence of the maned denizen of the deep should vanish with the suspicion of the sceptic, and exhibit more clearly the truth of the assertions of those ill-used men, who, endeavouring like useful members of society to extend the cause of natural knowledge by publishing candid accounts of what their eyes have seen, have always met with an amount of contempt and reproach sufficient to silence for ever the pen of many a truthful writer.

"I am sorry I have not the number of the 'Illustrated London News' at hand in which Capt. M'Quhae's graphic statement appeared, as it would have afforded me an opportunity of particularizing other features in connexion with his specimen and the present one. The facts, however, regarding the mane-like appendage, and the rapidity of motion to which I have alluded, are still fresh in my memory.

"My best thanks are due to Mr. George Trimingham, the capturer, for the generous manner in which he placed the fish at my disposal."

Description of a New Species of Estheria from Nagpoor, Central India. By W. Baird, M.D., F.L.S.

Since my paper containing a description of a species of *Estheria* (*E. Hislopi*) in the Proceedings of 1859, p. 231, was printed, I have received a short communication from Mr. Hislop, enclosing a second species of the same genus from the same locality. This species is considerably larger than *E. Hislopi*, and differs from it entirely in shape and markings. The carapace is oval, flat, and compressed, rounded in front, where it is most convex, and considerably attenuated posteriorly. The umbo is situated near the anterior extremity; the ventral margin of the shell is rounded, and the dorsal margin, from the umbo to the posterior extremity, slopes downwards and is nearly straight. The carapace is encircled with prominent ribs, which are few in number (about seven or eight) and of considerable size. The intervening spaces are smooth, rather broad, generally convex in the centre, and do not present any of that elaborate sculpture which the other species from India (described and figured in the Proceedings of the Zoological Society, 1849) —*Estheria polita*, *E. similis*, and *E. Boysii*—exhibit so distinctly; neither do they show the *excavated* punctations of *E. Hislopi*. They are merely very slightly punctate. The specimens sent being preserved dry, the animal has not been observed.

"The specimens now sent," says Mr. Hislop in his letter to me, "were obtained in shallow pools at Nagpür, Central India, about the middle of July, *i. e.* a month after the commencement of the rainy season there. If the pools dry up, as they frequently do, about the end of July, when there is a break in the Monsoon, the creatures perish, not to reappear that season, however copious may be the showers; but they are found in abundance at the beginning of the Monsoon in the following year. The orbicular species (*E. Hislopi*) is not obtained along with the one above referred to, but occurs about the end of August in a stream which communicates with the large tank on the west of the city of Nagpür."

The name I propose for this new species, the specimens of which unfortunately are not in a very good condition, is *Estheria compressa*.

Estheria compressa.

Carapax compressus, ovalis, convexus et rotundatus ad extremitatem anteriorem, ad extremitatem posteriorem attenuatus. Margo ventralis rotundatus, margo dorsalis obliquus, fere rectus. Testa costata, superficie vix punctata.

Length about 5 lines, breadth $2\frac{1}{2}$.

Hab. Pools of fresh water at Nagpoor, Central India. *Mus.* Brit.

March 27, 1860.—Prof. Busk, F.R.S., F.Z.S. &c., in the Chair.

Memoranda on the Hippopotamus and Balæniceps recently imported to England, and now in the Gardens of the Zoological Society. By John Petherick, F.R.G.S., H.M. Consul for the Soudan.

Since 1853 I have devoted from six to seven months of each year

to the exploration of some of the unknown regions of Central Africa. My starting-point, Khartoum, at the junction of the Blue and White Niles, in lat. 15½° N., a town of about 60,000 inhabitants, is the capital of seven provinces dependent on Egypt, called the Soudan, consisting of the whole of that, for the most part, sandy district between the second Nile cataract at Wadi Halfa and the territories inhabited by the naked Negro in 13° N. lat.; whilst its breadth extends from the borders of Darfour on the west to Abyssinia and the shores of the Red Sea on the east.

Leaving Khartoum, and navigating the White Nile to between 9° and 10° of N. lat., a narrow channel, and for the most part overgrown with reeds, which by former Nile-navigators had been considered unnavigable, attracted my attention, and pursuing it, not without difficulty finding my way through some narrow openings in a forest of reeds, I found this to be the connexion between a large lake and the Nile, of which it is one of the most important feeders hitherto known.

This lake, according to the time it occupied me to sail in a well-appointed boat with three large latteen sails, from one extremity of it to the other, after making allowance for the windings of the open passages through the dense vegetation with which it is for the most part covered, I consider to be about 180 miles long, and perhaps some 60 miles wide.

Its waters, ornamented with several promontories and islands, more or less wooded with sycamores, acacias, and mimosas, and but little frequented by man, literally swarm with Crocodiles and Hippopotami.

The latter in particular made many rude and uncouth attempts to dispute the right of passage over their hitherto secluded home, by attacking my boat, battering-ram fashion, both under and on the surface of the water; and on one memorable occasion, to the surprise and horror of all on board, a huge beast, suddenly raising half its great carcass, with an agility hardly to be expected, out of the water, close under the bows, carried off my unfortunate cook from the gunwale on which he was sitting, one bite of the animal's powerful jaws sufficing to sever his body in two at the waist.

It was here, whilst returning in the month of April in the year 1858 from the regions of the equator, where I founded an establishment of twenty-five men (Arabs from the neighbourhood of Khartoum), for the barter of elephants' tusks with the aborigines, the Niam Niams, that the "look-out" at the mast-head, almost frantic with excitement, called out "A young Hippopotamus," pointing to the reeds within a few yards of which we were sailing. A dozen of my sailors leaped into the water, and, disappearing amongst the thick herbage, soon returned, one of them grasping in his arms a young animal about the size of a spaniel, and kept afloat and propelled towards the boat with shouts of delight by his companions.

Fortunately for the safety of the men, the old lady Hippopotamus was not at home, and so distant from her charge as not to hear the cries of her baby (similar to those of a young calf); or the affair

might not have terminated so favourably. A piece of the navel-string, 15 inches long, was still dangling to its body, and did not detach itself for several days afterwards; from which I inferred that the time since its birth could not have extended over a day or two.

The unexpected but welcome guest was reared on milk, and in its absence with meal and water, being treated with all the attention we could bestow on it, and is now, judging from its thriving condition, as grateful as its owner for the hospitality it is enjoying at your splendid Gardens in the Regent's Park.

So large a sheet of water as the "Bahr il Gazâl" will naturally attract great numbers of the feathered tribe; and it was in this lake that I first made the acquaintance of a very handsome Stork (*Mycteria senegalensis*) and the *Balæniceps*.

Of both these rare birds I was fortunate enough to procure living specimens; the former of which, with numerous rare animals, such as the Elephant, Rhinoceros, two species of Ant-Bears, a rare Monkey, and I believe a new species of Antelope, unfortunately died during the long and arduous journey from Central Africa through Egypt to the Mediterranean.

The skin of the Stork, however, has been preserved, with a few other skins of birds, a remnant of a large collection made between the 5th and 15th degrees of N. latitude, but unfortunately lost in the Upper Nile cataracts of Nubia. The few skins alluded to as having been saved have been examined by your obliging Secretary, Mr. Sclater, to whom I am indebted for many acts of kindness since my return to England*.

Two living specimens of *Balæniceps* out of six shipped at Khartoum (but perhaps out of a score partially reared, the first, as you are well aware, imported into Europe) have, almost against hope, survived the apparently insurmountable difficulties of the trying journey across nearly one-half the continent of Africa, and are at length, I am proud to say, safely housed in your commodious Gardens.

The *Balæniceps*, although found only in or near water, is but rarely seen on the banks of the Nile, and then only during a short period of the year, when the interior is dried up, in the summer, during the short hot season preceding the rains.

It prefers the natural tanks and morasses of the interior, where

* Mr. Petherick's skins are in a condition which renders their specific determination rather difficult. The most noticeable are,—

Haliaëtus vocifer, juv.
Halcyon semicærulea (Gm.)?
Coracias abyssinica (Linn.).
Merops ægyptius?
Bucorax abyssinicus.
Lanius macrocercus, De Fil.
Prionops cristatus, Rüpp.
Laniarius chrysogaster, Sw.
—— *erythrogaster*, Rüpp.?
Lamprotornis purpuroptera, Rüpp.
Notauges superbus, Rüpp.
Colius senegalensis?
Schizorhis zonura, Rüpp.
Pœocephalus Meyeri, Rüpp.
Læmodon Vieilloti.
—— *leucocephalus*, De Fil.
Œdicnemus affinis, Rüpp.?
Cursorius, sp.?
Falcinellus igneus.
Ardeola bubulcus.
Nycticorax europæus.
Anastomus lamelligerus.
Mycteria senegalensis.
Parra africana.
Plectropterus Rüppellii, Sclater.
Sterna (2 sp.).

—(P. L. S.)

the shallowness of the water distributed over a large surface affords it greater facilities for wading than the banks of the Nile. These frequently shelve off into deep water more or less abruptly, and thus furnish but comparatively few spots favourable to the support and habits of the bird.

For this reason, at about 100 miles west of the Nile, in from 5° to 8° N. lat., at Gaba Shambyl, where I have a station of elephant-hunters, these interesting birds exist in greater numbers than on the Nile, or the comparatively deeper waters of the Bahr il Gazâl, the lake to which I have alluded, and of which I have the honour of being, if not, strictly speaking, the discoverer, at least the first navigator.

At Gaba Shambyl, striking off directly west from the Nile, the country for the first 30 miles rises with an almost imperceptible slope, when it again decreases in elevation for a distance of 60 to 70 miles. Here it becomes a large morass (with, occasionally, dry spots, which form so many islands in a sheet of water after the annual rains) that from north to south extends probably over 150 miles, having no outlet directly to the Nile, but, when the water is at a certain height, overflowing into a channel connecting it with the Bahr il Gazâl. This reservoir, which is more or less supplied with water all the year round, abounds in reeds and thick bush, and is the favourite retreat and home of the *Balæniceps*.

The birds here are seen in clusters of from a pair to perhaps one hundred together, mostly in the water, and when disturbed will fly low over its surface, and settle at no great distance; but if frightened and fired at, they rise in flocks high in the air, and, after hovering and wheeling around, will settle on the highest trees, and as long as their disturbers are near will not return to the water. Their roosting-place at night is, to the best of my belief, on the ground. Their food is principally fish and water-snakes, which they have been seen by my men to catch and devour. They will also feed on the intestines of dead animals, the carcasses of which they easily rip open with the strong hook of the upper bill. The breeding-time of the *Balæniceps* is in the rainy season, during the months of July and August; and the spot chosen is in the reeds or high grass immediately on the water's edge, or on some small elevated and dry spots entirely surrounded by water. The birds, before laying, scrape a hole in the earth, in which, without any lining of grass or feathers, the female deposits her eggs. As many as a dozen eggs have been found in the same nest. Numbers of these nests have been robbed by my men of both eggs and young; but the young birds so taken have invariably died. After repeated unsuccessful attempts to rear them, and more trouble than you can imagine, after two years' perseverance I at last succeeded in hatching some eggs under hens, which, at a considerable distance from Gaba Shambyl, I procured from the Raik negroes. As soon as I got the hens to lay, and in due time to sit, by replacing several of their eggs with half the number of those of the *Balæniceps*, as fresh as possible from the nest, the locality of which was previously known, I eventually succeeded in hatching several birds. These ran about the premises of my camp, and, to the

great discomfort of the poor hens, *would* persist in performing all sorts of unchicken-like manœuvres with their large beaks and extended wings in a small artificial pool constantly supplied with water by several negresses retained in my service for their especial benefit. Negro boys of the tribe (the Raik) were also employed to supply their little pond with live fish, upon which, and occasionally the intestines of animals killed for our use, chopped into small pieces, they were reared.

As may be supposed, the birds became the pets of my "Bizouks," as I frequently called my Khartoumers; and as they grew up, with extended wings and a rattle-like noise produced by the snapping of their bills, they would follow them round the large enclosure of my camp.

During their journey to England, six months' confinement in a cage has greatly affected their health, and I dare say soured their tempers; at least, such to a certainty would be the effects on myself if placed in a similar predicament. But, in common with, I venture to say, every one connected with the Society, I trust that my attention and trouble, to say nothing of the expense which I have been put to—although perhaps a more important feature than most of you may be aware of—may be rewarded by their recovery and well-being; and I hope if, as there will be no difficulty on my part, they become the property of the Society, they will long live to adorn, and perhaps enhance, the merits of the rare collection amongst which they are at present, with their countryman the Hippopotamus, so hospitably received.

On some New Species of Cypridina.
By W. Baird, M.D., F.L.S.

Of the new species about to be described, one is a native of Europe, two of the Indian Ocean, and one of Australia.

1. Cypridina norvegica, Baird.

Carapace-valves oval, somewhat compressed, smooth and shining. The notch or sinus at the anterior extremity is not deep; the beaks are small and somewhat thickened round the margins. The dorsal margin is gently rounded; the ventral is slightly arched, projecting at its upper extremity immediately beneath the notch, and at its inferior extremity is rather sharply gibbous or prominent, which, seen from the internal surface, shows a duplicature of the shell. The surface is polished, not punctured, and is of a straw-colour. In shape it appears to resemble very much the *Cypridina luteola*, of Dana* from the Sooloo Sea. The shell, however, is *ovate*, not *ovoid*; and the inferior extremity, instead of being rounded, is gibbous or projecting anteriorly.

Length 1½ line; breadth 1 line.

Hab. Coast of Norway (*R. M'Andrew, Esq.*). *Mus.* Brit.

2. Cypridina Godeevi, Baird.

Carapace-valves oval and ventricose, produced into a point at the

* United States' Exploring Expedition, Crustacea, vol. xiv. p. 1291, pl. 91. f. 1.

posterior extremity. The anterior extremity is rather narrower than the posterior; the sinus or notch is rather deep, the beaks are sharp-pointed and thickened along the margins. The surface is marked with numerous minute punctations, and is of a deep-yellow or saffron colour.

Length 3 lines; breadth 2 lines.

Hab. Madras, in 8 fathoms. *Mus.* Brit.

In the 'Mémoires des Savans Étrangers,' vol. iii. p. 269, there is an exceedingly interesting communication from M. le Commandeur Godeheu de Riville on the luminosity of the sea. In that paper he describes and figures a little creature which he found was the cause of this luminous appearance. The body of the animal, he says, was contained in a small, transparent shell, resembling in form that of an almond cleft down the side, and which was notched at its upper part. This shell, though roughly figured, pretty accurately represents this species of *Cypridina*, and I have little doubt our species is the same that Riville there describes and figures. The part of the ocean where he met with it was off the coast of Malabar.

3. Cypridina ovum, Baird.

Carapace-valves of a perfect ovoid shape, and very ventricose. Anterior extremity slightly narrower than posterior. The surface of the valves is marked with exceedingly minute punctations, with numerous round, quite smooth spots of a brownish-yellow colour distributed over it, appearing as if they were excavated out of the surface of the shell. The notch at the anterior extremity is rather deep; the beaks are somewhat pointed, slightly incurved and thickened along the margins; and the posterior extremity is rounded without any appearance of gibbosity.

Length $1\frac{1}{2}$ line; breadth $1\frac{1}{4}$ line.

Hab. Chinese Seas. *Mus.* Brit.

4. Cypridina albo-maculata, Baird.

Carapace-valves of an ovate-ventricose form, rounded on the dorsal and ventral margins, and slightly, but distinctly, produced into a point in the centre of the inferior extremity. The surface is marked with numerous small, distinct punctations, and conspicuously blotched with several large, bright white patches, which are slightly raised and strongly punctured. There are only two large ones on the right valve, and three on the left. The notch at the anterior extremity is rather deep, and the edges of the beak are incurved, pointed, and thickened along the margins. The anterior extremity is rather narrower than the posterior.

Length 4 lines; breadth 3 lines.

Hab. Swan River. *Mus.* Brit.

April 24, 1860.—Dr. Gray, F.R.S., V.P., in the Chair.

Mr. Gould exhibited specimens of the Chough of the Himalayas, which he proposed to call *Fregilus himalayanus*, and pointed out the characters which distinguish it from the European bird (*F. graculus*)

Mr. F. H. Wilson exhibited four examples of a curiously-coloured variety of the Common Mole (*Talpa europæa*), and read the following note on them :—

"Nine of these Albinos were caught in the same meadow within a few days, on Mr. Gibbon's farm, Beckenham, Kent. The Mole in general has four or five young ones at a birth. It is possible that all these were the offspring of the same parent, but I should think they must have bred amongst themselves. They were caught February 20th, 1860."

Mr. Sclater announced the arrival of some interesting animals from British Honduras, presented by R. Temple, Esq., Chief Justice of the Colony, to the Society's Menagerie. These consisted of a pair of Guans (*Penelope purpurascens*), a pair of Curassows (*Crax globicera*), a Collared Peccary (*Dicotyles torquatus*), and specimens of a singular breed of the Domestic Fowl, remarkable for its bones being black.

Mr. Sclater observed that the following letter received from Mr. Temple seemed to indicate the presence in British Honduras of a second species of Peccary, called the 'Warree,' about which more information would be very desirable :—

"16 St. James' Square,
Notting Hill, April 20th, 1860.

"Sir,—The Warree, about which you wish me to give you some information, differs in some respects from the Peccary. The latter, as I said before, is never seen, except in couples; the former invariably appears in large flocks. The head of the Peccary is very large and clumsy in proportion to the body. That of the Warree is less disproportionate. The coat or skin of the Peccary is covered with long hairs, which are darkish at the roots, and lighter-coloured at the tips. The colour of the Warree is a dirty black, and the hair is long and tangled. The legs of the Peccary are shorter than those of the Warree. Both have the same orifice on the back, from which exudes a liquid having a very offensive odour. When either of these animals is shot for the purpose of being eaten (and they are excellent food), the orifice on the back must be instantly cut out, or the whole of the flesh will become so much tainted, that, so far from being able to eat it, you cannot tolerate its vicinity. But if the excisional knife has been applied in time, the flesh is sweet, white, short, and tender. The Warree is a far more ferocious animal than the Peccary; but his courage perhaps may arise from a principle not quite a stranger to the human breast—a consciousness of being well supported; for, as I have said, they are always seen in multitudes. If you meet a flock of Warrees in the bush, and you take no notice of them, it is probable that they will take no notice of you. But if your intentions are hostile, and your design is to transfer one of them from his native wilderness to your kitchen, you must take care to place yourself in a safe position before you carry your design into execution. A gentleman, not long since, shot a Warree without having taken the necessary precautions; the remainder of the flock instantly pursued

him ; and if he had not managed to climb into a tree, he would have been torn in pieces. But he was kept a prisoner in that leafy asylum for many hours, the surviving Warrees being bent on revenging the death of their companion. Even when the flock went a little distance to feed, they left two or three to stand guard at the foot of the tree. The hunter has no difficulty in tracing the Peccary and the Warree, by the strong odour which prevails wherever they have been.

"I am, Sir,

"Your obedient servant,

"R. Temple."

On the Rheas in the Society's Menagerie, with Remarks on the known species of Struthious Birds. By Philip Lutley Sclater.

In November 1858 the late Mr. Thompson purchased for the Society in Liverpool a young *Rhea*, which now seems to have nearly attained its adult growth. It proves to be so remarkably different from the Common Rhea (*Rhea americana*) and Darwin's Rhea (*Rhea Darwinii*), examples of which are kept in the same inclosure with it, that I have little hesitation in characterizing it as of a different species; and in so doing I believe I have the concurrence of Mr. Gould, Mr. Bartlett, and other naturalists, who have had an opportunity of examining the bird.

The Long-billed Rhea (*Rhea macrorhyncha*, as I propose to call it) is a much smaller bird than the Common Rhea. The example in the Gardens, a male, stands about 6 inches lower than the two females of the American Rhea, which are in its company, and we may reasonably suppose that the female is proportionately smaller. The bill is much longer than that of the Common Rhea, as may be seen from the drawings (figs. 1, 2, 3), which represent the heads of the three species; and the head-feathers are longer and more closely flattened down. On the other hand, the tarsi are much more slender and the toes much shorter. The thighs are less thickly clothed than in the Common Rhea; but the scutellation of the tarsi seems to be nearly the same in both these birds, and offers a marked contrast to that of *Rhea Darwinii*, in which the tarsi are for the greater part covered with reticulated scales. The feathers of the body are longer in the Long-billed Rhea, and curve round it, hiding the outline, in a manner not observable in the Common Rhea. With regard to colouring, the new species is also very different, being of a brownish-grey mixed with black, and altogether much darker than *Rhea americana*. The top of the head, and streak at the back of the neck in particular, are of a deep black.

The accompanying drawings represent (fig. 1) the head of the new Rhea (*R. macrorhyncha*) and the heads of the two other species, *Rhea americana* (fig. 2) and *Rhea Darwinii* (fig. 3), which are given for the sake of comparison.

I am told that this Rhea is already known to some of the dealers in living animals as a distinct species; and I hope it will not be long

before we obtain further particulars concerning it, and discover what part of South America it inhabits.

Fig. 1.

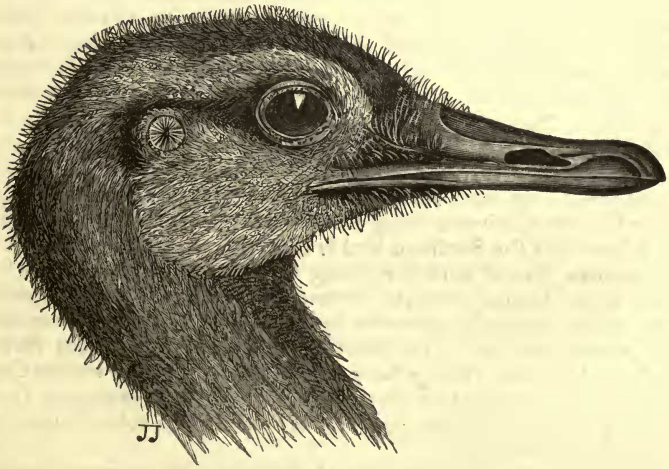

Fig. 2.

I take this opportunity of bringing before the Society a short *résumé* of the present state of our knowledge of the species of *Struthio-*

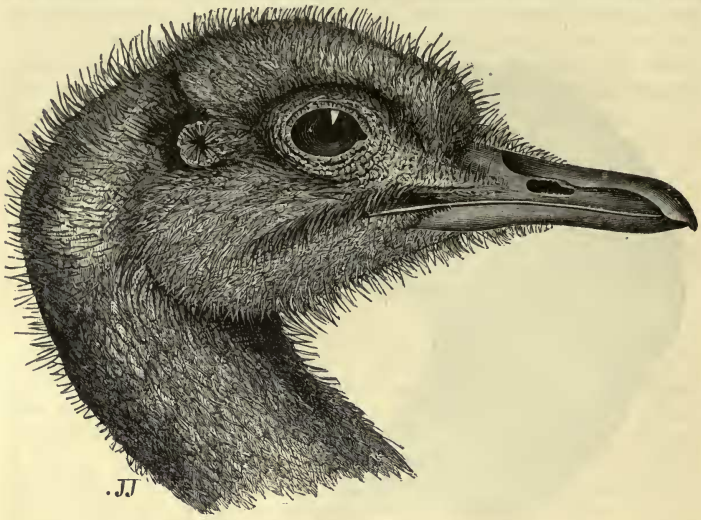

Fig. 3.

nidæ, which appear to be more numerous than was formerly supposed.

I. Struthio.

The Æthiopian type of the *Struthionidæ* (the most perfect of the kind, as is its type of the Anthropoid Apes) requires our first attention. I have long suspected that the Ostrich of Southern Africa, when closely compared with the bird of the Sahara, will turn out to be a different species; and I know that many other naturalists share my views. The eggs, as Mr. Bartlett has shown in exhibiting his fine series of the eggs of *Struthionidæ* this evening, seem to present well-marked differences. That attributed to the Southern bird is smaller and very much smoother and less deeply pitted, the granulations in some specimens being nearly evanescent. But I have reason to believe that the Southern bird is the larger in size. Through the unfortunate loss of both the young Ostriches presented to the Society by Sir George Grey last summer, we have missed the opportunity which we should otherwise have had of comparing them with the noble examples of the Northern bird which grace our Menagerie. But as Sir George Grey, who is now returning to the Cape Colony, has promised to obtain for us other adult examples, there is every reason to believe that we shall ere long be able to make the desired comparisons*.

The Ostrich of the Syrian and Arabian Deserts, mentioned by Col. Chesney (Journ. Euphr. Exp. i. p. 588), Dr. Layard (Nineveh,

* Prince Bonaparte speaks of a *Struthio epoasticus*, Compt. Rend. xliii. p. 785; but I cannot make out that he refers to either the southern or northern species.

i. p. 324), and other writers, and frequently referred to in the Holy Scriptures*, should also be carefully examined. It is not improbable that it may turn out to be a third species or well-marked local variety.

In the interior of Africa there is said by some of the older writers to exist a diminutive Ostrich (*l'Autruchon*). I have lately received some information on this subject from Mr. J. Petherick, H.B.M. Consul for Sudan, who tells me that his hunters have actually had this bird alive, and I have requested him to endeavour to procure further evidence on this point.

II. Rhea.

I have already pointed out above the characters which distinguish *Rhea macrorhyncha*—the third species of the Neotropical type of the *Struthionidæ*—from the two previously known, *R. americana* and *R. Darwinii*. There are examples of all three living in the Society's Gardens.

III. Casuarius.

The Indian Region, like the two Northern Geographical Regions—the Palæarctic and Nearctic†—has no Struthious birds,—the genus *Casuarius* being confined to the northern portion of the Australasian Region, and represented in the main land of Australia by species of the nearly allied genus *Dromæus*. Of *Casuarius* we have indications of the existence of five species, as follows:—

1. *Casuarius galeatus*, the Common Cassowary. In the Leyden Museum are specimens of this bird from Ceram, the only certain locality I know for it. We have a very fine male example living in our Gardens.

2. *Casuarius Bennettii* (P. Z. S. 1857, p. 268, pl. 129; 1858, p. 271; 1859, p. 32), the Mooruk of New Britain, of which we have *three* examples in our Gardens.

3. *Casuarius australis* (P. Z. S. 1857, p. 268), discovered by the late Mr. Wall on Cape York, Northern Australia, and said to be distinguished by a "bright red helmet and blue and scarlet caruncles." The only example yet obtained of this bird has been unfortunately lost.

4. *Casuarius* ——, a species living in the menagerie of the Babu Rajendra Mullick of Calcutta, and mentioned by Mr. Blyth‡ as having "a yellow throat, a single yellow throat-wattle, and a long stripe of naked yellow skin down each side of the neck." I have not yet received Mr. Blyth's published description of this bird §.

5. *Casuarius bicarunculatus*, a name I propose to apply to a Cas-

* Isaiah, ch. xiii. v. 21: "*Habitabunt ibi Struthiones*," translated in our version 'doleful creatures!' Also Lamentations, iv. 3; Job, xxxix. 13 *et seq.*, and other passages. The Ostrich was unclean according to the Jewish law.

† Confer Journ. Proc. Linn. Soc. ii. p. 130 (1858).

‡ Ibis, 1860, p. 193.

§ [Mr. Blyth's description of this new species will be found at p. 113 of our present Number.—Ed.]

sowary of which I have recently obtained a young example for the Society in exchange from the Zoological Gardens at Rotterdam. It is easily distinguishable by the throat-caruncles being placed far apart on the sides of the throat, lighter colouring, &c. As the bird itself will shortly arrive in this country, I hope to be able to give full particulars concerning this new species at the next Meeting of the Society.

IV. Dromæus.

At a Meeting of this Society in May last*, Mr. Bartlett gave us some indications of the existence of a second species of Emeu in South Australia, and proposed to call it *Dromæus irroratus*. I have lately had the pleasure of examining two specimens of this Emeu in Holland. One of these, now in the Gardens of the Zoological Society of Amsterdam, was brought from Albany in Western Australia, and thus renders it probable that the Spotted Emeu is the western representative of the *D. Novæ Hollandiæ*. The second, now in the Zoological Gardens at Rotterdam, I have obtained by exchange for this Society; and as we may hope to see it in our own Gardens in a few days alongside the Eastern species, I reserve further notice of it until I have had a more satisfactory opportunity for its examination.

It thus appears that there are some grounds for supposing that the species of *Struthionidæ* now in existence may amount to not less than fourteen or fifteen in number.

On the Black-shouldered Peacock of Latham (Pavo nigripennis). By P. L. Sclater.

The species of the genus *Pavo* generally recognized by naturalists since the time of Linnæus have been two in number—the Common Peacock (*Pavo cristatus*), and the Javanese or Green Peacock (*Pavo muticus*). My present object is to call the attention of the Society to what seems to be a *third* distinct species, in some respects intermediate between these two, and which, though long since introduced into Europe and often bred in our aviaries, appears in some mysterious manner to have almost escaped the notice of naturalists, and to have been left unprovided with a specific name up to this time.

The bird I allude to is the Black-shouldered Peacock of Latham's 'General History' (vol. viii. p. 114), where its differences from the true *Pavo cristatus* are accurately pointed out. They are, indeed, very obvious on comparison of either sex of these two birds, as may be seen by any one who will take the trouble to inspect the fine series of Pea-fowl belonging to C. Clifton, Esq., now under the Society's care in the Regent's Park Gardens.

In the Black-shouldered Peacock of Latham (a term which I propose to Latinize into *Pavo nigripennis*), the metallic green of the back, which forms the centre of the train, when expanded, is of a more golden hue than in *P. cristatus*, which it otherwise most gene-

* See Annals for April 1860, p. 333.

rally resembles. The whole of the secondaries, scapulars, and wing-coverts are black with outer narrow edgings of green, which becomes bluish towards the carpal joint. In this particular it resembles *P. muticus*, and is very different from *P. cristatus*, in which all these feathers are cream-coloured crossed with black markings. The thighs of *P. nigripennis* are black, as in *P. muticus*. In *P. cristatus* they are always of a pale drab. The female of *P. nigripennis* is of a much lighter colouring than that of *P. cristatus*, being almost entirely of a pale cream-colour, mottled with dark colouring above, and readily recognizable at first sight. In this respect, it may be remarked that the Black-shouldered Peacock is not intermediate between the two others; since in *Pavo muticus* the female is much more like the male.

Now the question arises, What is the Black-shouldered Peacock? Is it a domestic variety, a hybrid, or a feral species? I cannot consider it a domestic variety, because the differences in both sexes appear to be constant, and to descend to the progeny, and, indeed, are not of that sort that would be induced by domestication. M. Temminck, in his 'Histoire Naturelle des Pigeons et des Gallinacés,' * considers the Black-shouldered Peacock as the true Wild Peacock, and the *Pavo cristatus* to be a domestic variety of *that*. But this we know is not the case,—the Common Wild Pea-fowl of Hindostan being the true *Pavo cristatus*, and the Black-shouldered Peacock being, as I believe, *unknown* in that country†. That the *Pavo nigripennis* is not a hybrid between *Pavo cristatus* and *P. muticus*, is evident from the fact that we have now in our Gardens birds produced by this cross, and that they bear different characters altogether, as may be seen by the stuffed specimen which I now exhibit. Besides, the fertility of the birds, and the permanency and invariability of the differences which separate it from its two allies, seem to be quite conclusive against this view. If, therefore, it is not a domestic breed nor a hybrid, we must adopt the third alternative, and consider *Pavo nigripennis* as a distinct feral species. And I have little doubt that when the range of the *Pavonidæ* is more accurately known, we shall find that *Pavo nigripennis* occupies a distinct geographical area, which will in all probability be intermediate in position, as the bird is in characters, between *Pavo cristatus* and *Pavo muticus*.

Attention having been now called to this subject, I hope that no opportunity will be lost of examining the eggs, the osteology, and the anatomy of these birds, in order to ascertain whether the external characters are supported by other grounds of differentiation.

* Vol. ii. p. 26, Paon sauvage: *Pavo cristatus primus.*

† Our Head Keeper, Mr. James Thompson, who was in Calcutta in 1857, informs me that the Babu Rajendra Mullick, who is the owner of a very fine collection of living animals, had never seen the Black-shouldered Peacock, though he had specimens both of the Common and Javanese species in his Aviaries, and had bred hybrids between these two.

Description of a New Species of Geoclemmys from Ecuador. By Dr. J. E. Gray, F.R.S., V.P.Z.S., etc.

Mr. Cuming has lately sent to the Museum two shells of a species of Freshwater Tortoise, and a younger specimen, in spirits, of the same animal, obtained by Mr. Fraser at Esmeraldas, on the western coast of Ecuador.

Geoclemmys annulata.

Shell oblong, subquadrangular, black, slightly and irregularly varied with yellow; the vertebral plates square, almost as long as broad, with a compressed flat-topped anterior keel, highest on the fourth vertebral plate, which is narrower behind; margin sub-entire, with a triangular yellow spot on the under side of each plate; nuchal plate distinct; sternum flat, rounded on the sides, black, with a broad yellow band, forming a ring round the margin.

Hab. Esmeraldas, Ecuador.

The adult shell has much the external appearance of a Land Tortoise of the genus *Testudo*, but it has the divided caudal plate of the *Emydæ*. The nuclei of the vertebral plates are posterior and submarginal; those of the costal plates are placed in the upper hinder angle; the horny shields of these plates are concentrically grooved. The sternum is flat, rather suddenly bent up and truncated in front, and slightly curved and with a deep triangular notch behind: the broad yellow ring on this part gives it a very distinct appearance.

The young specimen, with the animal preserved in spirits, is black like the adult, but the back is much lower and rather concave in the middle, with a very strong, yellow, rounded keel. The hinder margin is slightly, and the front lateral margin is strongly, turned up at the edge. The head is rather small and black, the crown, the temple, and the neck being varied with broad white streaks or spots. The limbs are black, with a few broad white streaks and some white spots. The front of the fore legs is covered with cross rows of large scales; the soles of the feet with larger scales; the rest of the legs is covered with small granular scales; the hinder edge of the fore feet with three or four acute shields; the outer edge of the hind feet, marking the rudimentary outer hind toe, is edged with larger shields. Toes 5–4, short, thick, conical, only very slightly webbed at the base, and covered above and on the sides with three series of rather large shields. Tail short, conical, with rings of small black scales.

Description of a New Species of Emys lately living in the Gardens of the Zoological Society. By Dr. J. E. Gray, F.R.S., V.P.Z.S., etc.

The British Museum has lately received from the Zoological Society a specimen of an *Emys* which has recently died in the Gardens. It is believed to have been one of five specimens brought from Egypt by C. W. Domville, Esq., in 1852; but this is not certain. It is

quite distinct from any which have hitherto come under my observation.

EMYS FULIGINOSUS.

Depressed, flexible, black. Shields convex, rather irregular, with deep, irregular, subconcentric grooves of unequal depression. Underside black, with white blotches on the front margin of the sternum and on the inner edge of the central marginal plates near the sterno-costal suture, and a small irregular white blotch on the middle of the under side of the front marginal plates. Head rather depressed; crown covered with a continuous, smooth, rather horny skin. Jaws mottled with sinuous white lines or spots; sides of the neck with narrow white lines; the chin and throat mottled with broader white streaks, often interrupted or coalescing, or short and sinuous; the temple with a distinct round white spot, with two or three small white dots in front of it; the tympanum with a central white spot, and edged with a white streak in front. Legs and feet black; the front of the fore legs varied with white irregular streaks or spots, especially on the inner side, and with a white streak down the centre of the upper side of each toe. Toes distinctly webbed; claws rather elongate, curved, acute, black, with pale edges; the toes with a single central series of larger scales above. Fore legs with four large conical scales on the outer part of the upper side, and with a cross series of three square scales on the under side of the wrist. The hind legs and feet covered with equal, small triangular scales. Tail conical, black, with two transverse streaks before the vent.

Hab. North Africa?

DESCRIPTION OF HOMALOCRANIUM LATICEPS, A NEW SNAKE FROM CARTHAGENA. BY DR. ALBERT GÜNTHER.

A Snake presented by Capt. Garth to the British Museum proves to be a new species. It was procured at Carthagena.

HOMALOCRANIUM LATICEPS.

Diagnosis.—Scales in fifteen rows. Head broad, depressed as in *Elaps*. Seven upper labial shields, the third and fourth of which enter the orbit; two posterior oculars. Above black, with about twenty-three narrow brownish-yellow rings, the first forming a collar; belly brownish-yellow.

Description.—This Snake much resembles an *Elaps* in general habit; but there is no fang anteriorly, and the last maxillary tooth is longer than the others, and *appears* to be grooved. The rostral shield is rather low, triangular, and somewhat bent backwards on the upper surface of the head; the anterior frontals are much broader than long, and only one-fourth of the size of the posterior; the vertical is six-sided, not much longer than broad; occipitals moderate. The nostril is between two shields, the anterior of which is the largest; loreal none; one anteorbital. Seven upper labial shields, the second of which is in immediate contact with the posterior frontal;

the third and fourth form the lower part of the orbit; the fourth and fifth touch the lower postorbital; the sixth and seventh are equal in size. Two posterior oculars; two temporals, one behind the other. The median lower labial is triangular; six lower labials, the first pair forming a suture behind the median shield; two pairs of chin-shields, the anterior pair being twice the size of the posterior; there are four pairs of scales between the chin-shields and the first ventral. The scales are smooth, rhombic, in fifteen series. Ventral shields 172; anal bifid. The posterior quarter of the tail is mutilated. The ground-colour of the upper parts is shining black; the anterior part of the snout, a spot on the fifth upper labial, the rings of the body, and all the lower parts, are brownish-yellow. The rings, in this specimen, are one-fourth or one-fifth of the width of the black interspaces, and occupy two or three transverse series of scales; they are sometimes irregular and interrupted; all those on the tail are interrupted, the halves of one side alternating with those of the other; the first ring forms a collar, crossed by a narrow black streak.

	inches.
Length of the head	$0\frac{1}{2}$
——— of the trunk	17
——— of the tail (restored).....	4

MISCELLANEOUS.

On Alepidosaurus, *a Marine Siluroid Fish.*

By Dr. Albert Günther.

In his Family *Scomberoidei* Cuvier has brought together many dissimilar fishes, whilst he has omitted others which approach very closely to the typical forms. Other species discovered by subsequent zoologists, and exhibiting some agreement with a Scomberoid fish, went to increase the unnatural group. Amongst the latter is *Alepidosaurus ferox*, described by Lowe (Proc. Zool. Soc. 1833, p. 104; Trans. Zool. Soc. i. p. 124, pl. 19, and p. 395, pl. 59; vol. ii. p. 181). This profound naturalist, to whom we are indebted for our best information upon the fauna of Madeira, deceived himself in this case as to the structure of the rays of the dorsal fins. These are not the inarticulate bones of the Acanthopterygii, but they are soft, and their division into joints appears indistinct only because the individual joints are separated from each other by great spaces, and each ray, notwithstanding its length, only consists of a few joints. It is true the absence of the spiny fins would be of itself no proof of the position of our fish amongst the Malacopterygii: this is wanting in several true Acanthopterygii; but then other characters aid us in recognizing their natural position, and the place where the spiny fin should stand is not occupied by the soft dorsal, as is the case in *Alepidosaurus*; in them the spiny fin is merely reduced to a rudimentary condition (*Brama*). If to this we add the presence of the adipose fin in *Ale-*